

Full List of SFI Discover 2019 Funded Projects

(* denotes projects with two years of funding)

<i>Project Title</i>	<i>Organisation</i>	<i>Project Description</i>	<i>Award Value</i>
* Engineers Ireland STEPS Programme - 2020 and 2021	The Institution of Engineers of Ireland	<p>STEPS is a not-for-profit strategic outreach programme that promotes interest and awareness in engineering as a future career to children through a portfolio of projects.</p> <p>Established in 2000, STEPS is a multi-event programme including:</p> <ul style="list-style-type: none"> • Engineers Week, a campaign held annually to promote engineering as a career and the importance of the profession to Ireland. • Engineering your Future, providing Transition Year children with an immersive experience amongst engineering academia and organisations. • Young Engineers Award, a primary school competition for 3rd and 4th class pupils to inspire Ireland's next generation of engineering talent. • Engineering Girl Guides & Brownies Badges, developed by STEPS in partnership with the Irish Girl Guides. 	€300,000
Voices for Vaccines	Dublin City University (DCU)	<p>This project will inspire confidence in the science behind vaccines and counteract vaccine disinformation by developing campaign materials in direct collaboration with parents and medical experts from areas that are experiencing declines in vaccine uptake. It builds on our previous research on countering disinformation and the outreach programmes of our collaborators in the Health Service Executive (HSE) and Early Learning Initiative (ELI). Workshops with parents will facilitate dialogue about their vaccines concerns and empower participants to distinguish evidence-based information from disinformation. Outputs will include co-created messages that counter common myths and promote evidence-based information. These messages will be translated into campaign materials (infographics, videos, games, leaflets) using the voices of parents to counteract disinformation and promote vaccine uptake among peers.</p>	€39,435
Quiet Science - Co-Creating ASD Appropriate STEM Outreach	Atlantic Corridor	<p>Quiet Science will respond to requests received from those in the ASD [autistic spectrum disorder] student community & their advocates for ASD appropriate STEM outreach by developing and providing ASD appropriate STEM outreach to meet the needs of this under-served group. This suite of ASD appropriate STEM outreach will be co-created with 4 professional STEM providers with experts in ASD education and a group of primary and secondary level students. A range of workshops and activities will be developed and delivered in this process over 12 months. The project will create and circulate a manual of best practice in ASD appropriate STEM outreach provision to the STEM outreach community in Ireland. The project will work with primary and secondary schools in Offaly for the co-creation of the content which will be delivered in schools and also in the midlands regional library system so that a wide range of students can benefit. It will engage students, teachers and SNA's [special needs assistants] in the process of co-creating appropriate STEM outreach content.</p>	€50,000

Invisible Light	Crawford Art Gallery	<p>The Crawford Art Gallery was built around Cork's old Customs House in 1884 to include a School of Art and Science. The wrought-iron gates at the entrance still bear the titles 'Art' and 'Science'.</p> <p>This project reignites its heritage as an institution for Art and Science through an ambitious, collaborative endeavour exploring the Electromagnetic Spectrum as relevant to artistic creation and conservation. Marking the 200th anniversary of the birth of John Tyndall, we bring together scientists from Tyndall National Institute and Irish Photonic Integration Centre (IPIC), artists from School of Looking, and curators at Crawford Art Gallery.</p> <p>Just as we define the visible spectrum in seven colours, we divide the electromagnetic spectrum into seven regions. The middle region is our visible spectrum, but in truth they are all revealed to us, made so through an epic series of discoveries spanning two centuries that has rendered the entire universe visible.</p> <p>Our project shares this adventure with the public, exploring each of the seven types of electromagnetic radiation through history, scientific discoveries and art, during a seven-week exhibition incorporating artworks, workshops, seminars, and gallery visits.</p> <p>Seven newly commissioned artworks, one for each regions of the electromagnetic spectrum, will be exhibited at the Crawford Gallery for seven weeks, accompanied by seven Ray Days, public engagement days dedicated to each type of radiation.</p>	€42,430
SciFest	Scifest Limited	<p>SciFest is a highly successful national STEM initiative with significant impact at local, regional, national and international level, designed to promote STEM in schools and amongst the wider public. The project continues to expand and in 2019 directly involved over 10,000 students in over 40% of all second-level schools.</p> <p>SciFest's mission is to provide an inclusive and accessible platform for students to explore the STEM disciplines in an investigative way and to present their findings to a wider audience, thus supporting the development of key skills, including critical thinking, problem-solving, communication and collaboration. SciFest's primary aim is to encourage a love of STEM through active, collaborative, inquiry-based learning.</p> <p>The SciFest programme consists of a series of one-day STEM fairs which provide a forum for students to present and display their scientific investigations and compete for awards. Students of all abilities and social backgrounds are encouraged to participate and attempt to solve real-world problems. The fairs take place locally in schools and regionally in the Institutes of Technology, TU Dublin (3 venues) and DCU, with a national final in Dublin leading to participation in international competition. This structure facilitates a comprehensive geographical spread of participation – the students involved are drawn from all 26 counties – and attracts up to 60% female participation.</p>	€150,000

Rebel Yeast	University College Cork (UCC)	<p>Rebel Yeast is an immersive citizen science project where volunteer scientists will explore local woodlands to discover new wild yeasts, analyse their samples in the laboratory, participate in planning the research, and communicate the process and the results to their peers and the wider public. The volunteer scientists will fully engage with the scientific method through practice and with the research and any associated issues before co-designing communication materials for a final public event. They will inform the research and gain insight into how scientific knowledge is acquired. The scientific goals of the project are to collect, identify and characterise wild yeasts, investigate links between native Irish trees and yeast biodiversity, and create a database of Irish yeast biodiversity. Six sets of local volunteers will participate in sampling at a Cork woodland with an officer from An Taisce followed by a practical microbiology session at UCC. A research assistant will continue work on the yeast isolates and will update volunteers on how “their” yeasts are doing via a blog and social media. The results will be recorded in the National Biodiversity Data Centre database, and some may be developed into products for the bio-based economy or the food and beverage sector.</p>	€49,807
Science Foundation Ireland Science Zone at the Festival Village	Feilte Dhuibhe Linne Teoranta t/a St. Patricks Festival	<p>St. Patrick’s Festival has been at the heart of Ireland’s national holiday celebrations for 24 years.</p> <p>In 2020, as we approach the 25th anniversary of the Festival, we will build upon our existing STEM offering as part of the ‘Science Foundation Ireland Science Zone’ (SFI Science Zone) with additional workshops, science shows and hands-on exhibitions at Festival Village. We recognise the important contribution that science makes to Irish social and cultural life and we remain committed to celebrating STEM as part of our national holiday.</p> <p>Festival Village will take place over four days in 2020 from Saturday 14th to Tuesday 17th March 2020 on Merrion Square in the heart of Georgian Dublin and will appeal to families and children from 4 -12 years of age. The SFI Science Zone will be fully programmed for all four days and the Festival will work closely with other SFI funded partners to programme science activity for a range of young people across five key areas of activity:</p> <p>(1) exhibits and displays (2) Big Top Science Shows (3) STEM Workshops (4) and large-scale interactive exhibitions (5) on-street/walkabout science buskers</p>	€46,966

SOPHia: Science Outreach to Promote Physics to Female Students	University of Limerick (UL)	<p>This project aims to encourage female students to take up physics as a Leaving Certificate subject. There is a three to one ratio of male to female students taking physics at Leaving Certificate level in Ireland. This affects the numbers of females taking physics at third-level, and ultimately in academia and industry. Therefore, the Department of Physics, in collaboration with the Science Learning Centre at the University of Limerick (UL) developed the SOPHia project. The current SFI-funded project consists of:</p> <ol style="list-style-type: none"> 1) a school visit programme delivered by undergraduate facilitators; 2) a student competition for projects researching famous physicists/important physics discoveries/local physics; 3) a showcase event to support teachers to address the gender imbalance in physics; 4) a website for parents, teachers and students. <p>The workshop has visited 7 schools in 2019. Of 310 students surveyed before and after the workshop there was a 38% increase in those who said 'maybe' and a 53% increase in those who said 'yes', when asked if they intended to take physics as a subject. In 2020 we will build on this positive impact by broadening our reach as follows:</p> <ul style="list-style-type: none"> • Partnering with a community organisation to co-create activities with disadvantaged students; • Reaching out to adult members of the community through parent evenings; • Targeting pre-service science teachers to inspire an interest in physics, and awareness of its importance for female students; • Expanding the impact of the project through dissemination of the outreach model in partnership with the Institute of Technology Carlow. 	€49,980
Investing In The Future - Science Capital Training	Atlantic Corridor	<p>This project will deliver training for youth and development workers in Laois, Offaly, Longford and Westmeath, facilitated by Midlands Science in association with the Science Capital Research Team of University College London. This project is being developed in response to demand from youth and development workers who are undertaking STEM activities in after-schools clubs and other settings to be trained in best practice. Midlands Science has adopted a science capital approach in its work, placing a strong focus on developing science capital with a particular focus on under-served groups. The training will be delivered using best practice examples and capacity building with the UCL Science Capital Research Team. This will provide the 100 participants with increased confidence and skills with which to deliver STEM activities in informal settings. This project will allow youth and development workers to work with an international best practice model ensuring that their work in this area is more impactful and evidence based. Building confidence, this approach will value and build on their existing knowledge base. The training will upskill youth and development workers to provide a reflective framework for STEM engagement.</p>	€50,000

<p>* Engaging Space</p>	<p>Cosmos Education Ltd T/A Blackrock Castle Observatory</p>	<p>Working closely with Science Foundation and ESERO Ireland, the 'Engaging Space' project employs the inspirational theme of Space to drive targeted initiatives in support of a STEM-engaged and scientifically-informed society.</p> <p>BCO aims to inspire students to develop an interest and awareness of STEM through curricula-linked, inquiry-based activities that encourage independent thinking, whilst helping their teachers to be themselves inspired and prepared to use new technologies and teaching modalities through a suite of continuing professional learning experiences.</p> <p>This proposal recognises that best-practise engagement with industry and third level colleges supports greater STEM awareness for both formal and informal educational activities including road-shows, conferences, competitions and festivals. Showcasing positive role models inspires all people; thought-provoking STEM content catalyses conversations and increases science capital, as well as promoting STEM careers.</p> <p>Space Week, coordinated by BCO, showcases and enhances the impact of the extensive inspirational and educational space activities across Ireland.</p> <p>With the support of our committed partners and taking special care to reach disadvantaged and less-engaged groups, the initiatives support a normalising of science culture year-round and capacity-building nation-wide through innovative and best practice events.</p>	<p>€299,092</p>
<p>*Space, Surveyors and Students: STEM and Sustainable Development Goals (5*S)</p>	<p>National University of Ireland, Maynooth (NUIM)</p>	<p>Building on ESRI Ireland's award-winning 'ArcGIS for Schools' programme, the Society of Chartered Surveyors Ireland (SCSI) 'Day in the Life' school recruitment drive and Ordnance Survey Ireland's GeoHive public data-portal, 5*S will help educators to showcase satellite data and demonstrate how space technology can help meet the UN Sustainable Development Goals.</p> <p>5*S will direct volunteers via Corporate Social Responsibility policies to use Copernicus satellite data to collaborate on 'ArcGIS for Schools' lesson plans, host 'train-the-trainer' events and visit local schools to help excite students about STEM-related careers. 5*S will also leverage the multidisciplinary nature of the SCSI member pool to create awareness, and improve the utilisation of, Copernicus data in professional areas such as planning, construction, infrastructure development, and environmental analysis and monitoring, thus contributing to the growth of STEM awareness in a broad range of career areas as well as amongst the general public.</p> <p>Citizen science and Augmented Reality will show students the impact of climate change by overlaying current and historical space data in real world locations. It will also help students to improve their spatial skills by enabling users to insert both man-made and natural objects into these same real world locations and then interact with them to assess their impacts (similar to Pokémon Go). Poor spatial skills are a known barrier to uptake of STEM careers, particularly among females and particular cultural backgrounds, and 5S will build on the success of TU Dublin/Intel's initiative to improve spatial skills in primary and post-primary school students in Ireland.</p>	<p>€299,079</p>

* South-East STEM Hub and Cluster	Waterford Institute of Technology (WIT)	<p>The South-East STEM Hub and Cluster model will harness existing resources in the region to create a sustainable ecosystem that will support and deliver STEM education and public engagement (EPE) across a region of 500,000 people.</p> <p>A radical change in numbers reached and depth of engagement is needed to meet SFI and Department of Education's goals. Calmast is the STEM engagement Hub of Waterford Institute of Technology and leverages the considerable resources of the Institute's staff, students, functions. This proposal will mobilise the considerable, but fragmented and dispersed resources in the region, creating local partnerships of governmental bodies, NGOs, schools, industry. It is a new model for STEM EPE in Ireland.</p>	€150,000
Citizens' Think-Ins: Engaging Irish Adults in STEM Dialogue and Discussion	Trinity College Dublin (TCD)	<p>The 'Technology in My Life' citizens' think-in series will engage more than 1,100 adults in in-depth discussion, dialogue and deliberation around societal implications of one of the most significant emerging technologies worldwide: Artificial Intelligence (AI). The ADAPT Centre will partner with public libraries to bring eight think-ins to the heart of communities in seven Irish counties during 2020. Through DCU in the Community, ADAPT will work with adult learners from disadvantaged backgrounds to co-create content for the think-ins.</p> <p>The outcomes will be:</p> <ul style="list-style-type: none"> • Enhancement of participants' understanding of AI and its potential impact on their lives and society. • Strengthening of citizens' and scientists' familiarity with, and acceptance of, diverse points of view related to AI. • Growth in participants' confidence in participating in public discourse about STEM and feeling more engaged with STEM research. 	€40,933
I'm a Scientist Ireland and I'm an Engineer Ireland	Gallomanor Communications	<p>I'm a Scientist (IAS) and I'm an Engineer (IAE) are online activities where school students and their families connect with STEM professionals. The unique online format enables all kinds of students to engage with STEM, regardless of confidence levels or location.</p> <p>Running since 2008 the project continues to refine how it reaches students who tend to be excluded from the wider landscape of STEM enrichment activities. In 2020 we will increase the number of pupils in lower ability classes.</p> <p>Students connect with STEM professionals through text-based live CHATs, and ASK questions about STEM subjects. The students then VOTE for their favourite STEM professional to win €500 to fund further public engagement.</p>	€34,650
Irish Sign Language STEM Glossary Project Phase 3	Dublin City University (DCU)	<p>There are approximately 5,000 people in Ireland who use Irish Sign Language (ISL) as their first language (Central Statistics Office, 2017). For those Deaf and Hard of Hearing (DHH) people to be fully engaged and scientifically informed, there must first be an agreed lexicon in Irish Sign Language for STEM terms.</p> <p>This project, aiming to promote and support STEM education for DHH learners, is in its third year with years 1 and 2 funded by SFI. We have, so far, created an open-access online ISL glossary of maths terms (2018), and we are currently (2019) growing this to include environmental science. This year, we will move to terms from biology.</p>	€50,000

CEIA - EDUCATION TO INDUSTRY	The Cork Electronics Industry Association (CEIA)	<p>CEIA – Education to Industry aims to foster student , industry and community interaction through engagement in targeted STEM activities</p> <p>The Programme includes:</p> <p>Maths tutorials for 5th and 6th year students provided by CEIA industry volunteers.</p> <p>2nd level teacher training programme, Exploring Electronics, in conjunction with UCC (University College Cork) and CIT (Cork Institute of Technology)</p> <p>Transition Year work experience programme in conjunction with CEIA member companies, the Tyndall Institute, UCC (University College Cork) and CIT (Cork Institute of Technology).</p> <p>Public Events - Participation in the Cork Science Festival through public event participation and school workshops , the iWish Conference – an initiative to promote STEM to young women and the Mallow Maths and Science Fair. Involvement in Science week, Engineer’s Week and Tech Week through running electronics workshops for 11 – 14 year olds</p> <p>Educating the Influencers Event – Promotion of open house activity between industry and second level teachers. An event to educate the key influencers in terms of career path opportunities by exposing them to company environments where they can engage in discussion on both current job roles, future job roles and the types of higher educational paths that can lead to employment in STEM based manufacturing</p>	€29,240
Maths4all	Dublin City University (DCU)	<p>This project addresses professional development in early mathematics education (3 - 8 years). It strengthens and extends the current SFI Discover project 'Mathematics Teaching Practices Toolkit' which uses video exemplars to facilitate teacher reflection on everyday teaching practices (www.maths4all.ie in development). We identify five key areas for action:</p> <ol style="list-style-type: none"> 1. A survey of principals, preschool and primary teachers will be conducted to determine preferred content and formats for professional development. 2. Three modules will be created from existing and new www.maths4all.ie website materials. The content and format of these will be informed by survey results. <p>One of the modules will focus on inclusive practice as catering for the needs of all pupils is very challenging (César & Santos, 2006; supplementary information). In particular, achievement results of Irish primary school students show that higher achievers would benefit from further challenge (Kavanagh et al., 2015).</p> <ol style="list-style-type: none"> 3. To develop materials for this module, three activity plans will be developed, taught and video-recorded in primary classrooms to showcase high-quality inclusive practice. This content will be made available on the Maths4All website. 4. Website materials will be used to facilitate a video club; a small group of teachers who meet regularly to watch, discuss and reflect on video excerpts of classroom practice. 5. Mindful of the diversity of professional development needs across preschool and primary school contexts, we will also host a TeachMeet. In this approach, teachers gather to present and/or listen to short presentations. It offers a less formal, more-participant driven form of professional development. 	€34,240

Curious Young Minds	National University of Ireland, Galway (NUIG)	<p>One focus of CÚRAM's Education and Public Engagement programme is to encourage young people and especially those from lower socio-economic backgrounds, to participate in STEAM disciplines. The "Curious Young Minds" project aims to facilitate a series of co-creation workshops with children and their parents who are accommodated in Direct Provision Centres in Galway City, Co. Galway, while awaiting the outcome of their application for international protection.</p> <p>The principle aims of this co-creation project are to increase the participating children and parents' interest in science and increase their confidence in doing science. It also aims to provide a platform through which the participants can showcase their new-found knowledge and expertise to others, further enhancing the aim of increasing confidence. It will place the co-creators in a leadership role, providing inspiration to other children and parents living in Direct Provision and the wider community. Beyond the duration of the project, CÚRAM will use the relationships built and knowledge gained from this project to develop further engagement with target group.</p>	€28,705
Sensational STEM - Sensory Friendly STEM for ASD Students	Tyndall National Institute (TNI)	<p>Sensational STEM' is aimed at students with an Autism Spectrum Disorder (ASD) diagnosis who may otherwise find existing STEM programme settings distressing. Typical STEM events use what is exciting, loud and bright to highlight the brilliance of Science. This can induce sensory overload and upset in students with ASD. This upset could give an ASD student an aversion to STEM, and subsequently they may not consider STEM subjects or a career in STEM.</p> <p>Most ASD students have a fear of being wrong, and often won't try anything new or daunting. They perceive STEM subjects as being difficult and can avoid these fields as a result.</p> <p>Sensational STEM will:</p> <ul style="list-style-type: none"> --Provide a calmer and quieter opportunity to learn --Provide tailored, sensory friendly experiments --Be given in groups of up to 10 students --Be given over two sessions, two weeks apart --Instil confidence in the students in STEM related subjects 	€41,000
Scientist-in-Training: spreading science through smartphones	Trinity College Dublin (TCD)	<p>This project proposes to broaden public engagement in science using a free smart-phone app, which will make neuroscience more accessible to the general public, particularly those not formerly engaged in science, technology, engineering and mathematics (STEM). A novel approach that is opportunistic in timing and value-for-money, we will leverage a recently developed app called Neureka that is due for release this Autumn via the App Store and Google Play. This app translates lab-based cognitive tests into fun and challenging games and asks the public to join in as citizen scientists to help us understand the brain. We aim to add a scientist-in-training dashboard to this app that provides the public with a unique opportunity to generate and test their own hypotheses based on data from experiments they have participated in as part of Neureka. An example of engaged science, users will make a transition from research subject to scientist, using data to answer their own questions, while acquiring a set of take-home learnings about the scientific method, critical thinking and how they can promote their own brain health. This active-learning experience will promote a deeper understanding of the scientific method in the Irish public, facilitating informed debate and an appreciation for how science is conducted and how we should evaluate different sources of evidence</p>	€50,000

ReeLIFE SCIENCE Video Competition	National University of Ireland, Galway (NUIG)	<p>ReeLIFE SCIENCE is a nationwide STEM engagement programme, which encourages young people and the general public to discover more about STEM and its impact on individuals, society and the environment, while at the same time developing participants' creativity, team working, communication and digital skills.</p> <p>Participants from schools and youth groups are challenged to research a STEM topic and communicate it for the public via an engaging and educational three minute video. The best videos are awarded prizes of up to €1,000 and are screened for the public at the Galway Science and Technology Festival, at other public events and online.</p>	€15,000
*STEM Teacher Internship (STInt) Programme	Dublin City University (DCU)	<p>The aims of the STEM Teacher Internship (STInt) programme is to help to form and inform teaching and learning practice , provide role models and inspire future generations of students (particularly girls) to enhance their knowledge of STEM/careers and foster sustainable school-industry collaborations. These aims will be achieved through facilitating STEM internships for preservice and in-service teachers of STEM subjects, both at primary and second level across Ireland. Many studies have shown that teachers are significant influencers on a student's career choice. The STInt programme provides opportunities for teachers to complete paid summer STEM Internships (12 weeks) and apply their STEM knowledge and skills in an industrial context. This placement allows teachers to acquire first-hand experience of the roles and careers of STEM professionals and thus gain a deeper understanding of the applications and impacts of STEM in authentic real world settings.</p> <p>This project has evolved from a pilot programme that began as a collaboration between DCU, the 30% Club and Accenture and involved 5 DCU pre-service teachers placed as interns in Accenture in 2016 to having 37 internship positions across 20 companies in 2019. Building on the success of the programme to date, funding is sought to establish a National STEM Teacher Internship programme that has recognised core values, is flexible in its implementation and can be adopted and embedded in the organisational practices of other Universities and Companies - so as to maximise benefit for in-service and pre-service STEM teachers and host organizations.</p>	€263,315
Cell EXPLORERS Escape Room	National University of Ireland, Galway (NUIG)	<p>This proposal aims to create a Cell EXPLORERS Escape Room (CEER), in which a group of participants solves puzzles to resolve a mystery and escape a confined space / situation, are a combination of intellectual challenge, hands-on experience and social gathering. They have made their way into E&PE due to their ability to increase internal motivation to learn science and to attract new kinds of audiences to STEM.</p> <p>The CEER will be entertaining, immersive and engage teenagers/young adults who do not normally interact with science, do not learn science in school or would not visit science festival. Its content will relate to modern biology, tools that scientists use in this field, and the secondary school science curriculum to continue to target existing audiences.</p> <p>The project will result in three CEER kits that will be easy to transport, run and reset for subsequent sessions. At the end of this project, the kits will be circulated around the country via the CE network making this project sustainable for several years.</p>	€46,642

LET'S FIND OUT SERIES 2	Stopwatch Television L	<p>LET'S FIND OUT is an Irish children's science entertainment TV & Digital series for RTEjr (the national broadcaster's dedicated children's channel). Aimed at 4 to 7 year olds, the format features two real scientists and a puppet called Zoom on board a spaceship called the Curiosity. In each episode, the presenters invite two curious children on board to help them answer their chosen question. The first season featured 20 x 15 minute episodes.</p> <p>LET'S FIND OUT season two will feature 20 more questions to be answered, 40 more Irish children, 20 more interesting STEM-related locations and at least 40 more science demos all packaged in an entertainment format distributed via broadcast TV and VOD platforms.</p>	€238,345
Bright Club	National University of Ireland Galway (NUIG)	<p>Bright Club, the 'variety night for lateral minds', uses comedy to bring academic research to the public. Academic speakers give short humorous talks about their work alongside professional comedians and musicians in an informal pub setting. Speakers receive professional training on communicating their research using humour, and the broad range of topics, high production value, and casual setting attract a diverse audience who are not "scientifically converted". Bright Club shows that science is integrated with the rest of human knowledge, building capacity for better science communication.</p>	€49,862
FameLab Ireland 2020	British Council Ireland	<p>FameLab is the world's leading competition to discover the best new voices in science, providing them with the skills, confidence and opportunities to engage diverse audiences with STEM in fun, innovative ways. Since 2005, FameLab has cultivated 12000+ communicators from 35+ countries.</p> <p>In 2020, Famelab will consolidate this success to ensure that it contributes as fully and effectively as possible to Ireland having the most engaged and scientifically informed public. Working through our national network, 70+ dynamic alumni (45% female) and quality partnership (25+ multi-sector organisations), planned activities include:</p> <ul style="list-style-type: none"> -Competition where emerging scientists (18+) have 3 minutes to explain a scientific concept to a general audience. Public heats within arts/community venues in Cork, Galway, Limerick, Dublin (includes 4 mini-heats), a nationwide video competition and public national/international finals broadcast globally -Science communication taster training for all participants-110+. World class sci-comm masterclass-10 finalists -Ambitious marketing strategy using FameLab podcasts, alumni articles/blogs, interactive digital resources, FameLab Ireland YouTube channel (170+ talks), social/mainstream media campaigns etc to promote FameLab resources/events and encourage greater public interest in STEM-1.5 million+ reach -More experienced, skilled alumni network involved in 20+ FameLab related science communication activities nationally/internationally (eg, SmartFutures, SCICOM) 	€49,950

The Science Behind The Circus	Galway Community Circus	<p>Galway Community Circus (GCC) will develop a public 'Gravity Park' exploring STEM topics linked to the art of wirewalking. The Park will form a large component of a major 4-day event (called Wires Crossed) GCC are producing for Galway 2020 European Capital of Culture. The event is themed around wire-walking and GCC will use this exciting artform to increase public interest/engagement with STEM in an innovative unique way.</p> <p>The Park will be an open creative space where young people and families can discover and explore STEM concepts in an informal, accessible environment. It will include free tightwire workshops alongside interactive activities looking at physics, mathematics and engineering within the context of wirewalking.</p> <p>GCC will collaborative with scientists and circus artists to develop the Park.</p> <p>The Park will operate from 6–9 August 2020 as part of a major event for Galway 2020 ECOC. GCC will use the spectacle of this unique event to capture people's attention and imagination which will encourage participation at the Park throughout.</p> <p>GCC will then use the Park concepts to develop a tourable workshop and Education Resource Pack.</p>	€44,150
ELI Community STEM Engagement through coding clubs, workshops and events	National College of Ireland (NCI)	<p>This project will build on the success of previous SFI funded Coding Clubs by doubling the Afterschool Venues and adding selected DEIS primary schools as well as creating an excitement about STEM throughout the community.</p> <p>We have a high demand for future Clubs, which are targeted at children living in Dublin's Inner City. Pre and Post programme tests administered to students taking part thus far have shown positive attitudes and learning dispositions towards STEM have increased following participation in the Coding Clubs.</p> <p>Students will cover coding lessons using Scratch and Makeblock and will be asked to apply the knowledge and skills learning to programme robotics. There will be Challenge at the end to showcase the children's learning. The coding lessons will be supplemented with STEM workshops and events along with coding training for staff and volunteers involved. Parents and extended family will be welcome to attend the Coding Club, workshops and other events. In addition, all ELI Programmes will be reviewed to include additional STEM activities. The aim is to expand the enthusiasm and interest in STEM across the community.</p>	€50,000
*STEM as Gaeilge agus Cant	Camara Education	<p>Building on the success of our work in marginalised Gaeltacht (Irish language speaking) areas of Ireland fthis project will increase engagement with STEM in rural communities by increasing educator confidence to deliver STEM curriculum activities through Irish, create STEM Irish language guides and promote STEM events. We will apply our approach to engaging the Traveller community with STEM by using the translation of Cant (Traveller language) as a starting point to introduce the concepts of STEM with a view to igniting interest in young Travellers in STEM education and career pathways.</p> <p>Through partnership and collaboration with government departments, statutory bodies and youth development organisations over two years we will provide training and support for 450 educators reaching 8,000 young people. We will create a 'stil and ti' (house style) language guide for STEM in Irish, introduce STEM creatively to the Traveller population and develop a toolkit with international relevance for raising STEM engagement through minority languages.</p>	€501,928

Pint of Science Ireland 2020 Festival	Pint of Science Ireland	<p>Pint of Science Ireland is an annual science festival that brings cutting-edge research to the public. The festival consists of events held in pubs and cafes around Ireland, where local scientists discuss their state-of-the-art research with a lay adult audience. We employ a broad definition of science, encompassing all STEAM subjects.</p> <p>The 2019 festival took place on 20-22 May, with over 100 organizers and 95 speakers involved in coordinating the festival throughout Ireland. There were 33 events across Dublin, Cork, Galway, Limerick, Waterford, Athlone, Dundalk, and Birr. Over 1500 people attended, and 90% events were at capacity. Tickets for all Pint of Science Ireland events were free. Everyone involved in Pint of Science Ireland is a volunteer.</p> <p>In 2020 we plan to add events in Kerry, Donegal, and Sligo to the schedule, while keeping the festival free to attend.</p>	€12,909
*Engineering North-West	Institute of Technology, Sligo (ITS)	<p>Engineering North-West is a project to engage and illuminate the community in the North West on the fun, excitement, challenge and positive societal impact associated with engineering.</p> <p>The Engineering NorthWest project involves the development and delivery of two annual events to promote awareness of and enthusiasm for engineering among the public. It will target primarily young people, particularly girls, and their parents, especially those in disadvantaged social groups. An Engineering Fair will be hosted during Engineers Week, this one-day event will be aimed at younger children (primary school age) and their families and will include: school engineering projects; hands-on workshops using a range of technologies (robotics; coding; structures; 3-Printing); shows and talks. Secondly, we will build a programme of engagement for second-level students with the already established Engineering Expo at IT Sligo. The Engineering Expo is a showcase of third level engineering projects and industrial engineering in the region, we will leverage this to engage with second level schools to develop and showcase engineering projects and to develop awareness of engineering courses and careers.</p>	€58,000
Generations of Learning, STEAM Ahead at South Dublin Libraries	South Dublin County Council	<p>The year-long programme will be structured and streamlined across our four main branches and later will include two new branches due to be open in Spring. Our aim is to engage new participants in STEM, help them understand the role of STEM and encourage young people to openly debate STEM subjects. The programme will be aimed at every generation from primary to secondary schools, to parents, adults and senior citizens. South Dublin has a high number of disadvantaged areas and our programme will work with DEIS schools, and educationally disadvantaged groups with workshops being provided for our dyslexia school St Roses in Castletymon. We have excellent relationships with our local schools. We will utilise these relationships to deliver fun and engaging workshops including CSI workshops, coding, fab labs etc. Our programme aims to reach participants not normally engaged with STEM. The workshops planned for adults will demystify STEM, break down the barrier and encourage adults to embrace STEM and show it is not just for the young. Workshops will include a digital fabrication and introduction to STEM for Newbies, a coding workshop for parents called Keeping Up With the Kids, laser cut model building and intergenerational lego workshops for our senior citizens. The programme is based on collaboration between partners, facilitators and STEM driven champions including TU(Tallaght University) Dublin, an Taisce, South Dublin County Council Climate Change Department and many more.</p>	€21,000

Advanced Manufacturing: 3D Printing & Teacher Training	University College Dublin (UCD)	<p>This project aims to reach second-level teachers with key messages about current careers in advanced manufacturing and the potential for a range of exciting future careers. 3D printing is a key technology in advanced manufacturing. From a public perception point of view, it benefits from being visually appealing, tangible, and creative. We propose to harness fascination with this technology to improve engagement with advanced manufacturing among teaching professionals. Little practical knowledge of this technology exists among teachers; yet demand for knowledge and desire for skills is high.</p> <p>I-Form, the SFI Research Centre for Advanced Manufacturing, in partnership with the Junior Cycle for Teachers (JCT) – will develop and deliver an elective CPD module on the subject of “Creativity Design & 3D Printing to 120 teachers in three locations around Ireland in 2020.</p>	€21,400
Music and Science: Quavers to Quadratics	The National Concert Hall	<p>Quavers to Quadratics is a series of workshops for primary school children, primarily from DEIS (disadvantaged) schools, highlighting the overlap between music, maths and physics, and responding to the lack of STEM engagement typical in such schools. Direct marketing to DEIS schools, coupled with a priority booking system, ensures that the vast majority of places are taken by these schools</p> <p>The programme is co-designed, co-taught and co-assessed by academics and students from the School of Education (Science), University College Dublin (UCD); the School of Education, Trinity College Dublin (TCD); and the National Concert Hall’s (NCH) Learning & Participation department.</p> <p>The programme challenges the idea that music and maths/physics lie at opposite ends of the academic spectrum, and is built with active learning and co-teaching pedagogies. It is very much in-line with the priorities of Science Foundation Ireland’s ‘Agenda 2020’ strategy as well as Junior Cycle reform and primary science strategies. A direct impact of Quavers to Quadratics will be an increased take-up of STEM subjects at second- and third-level.</p> <p>This project facilitates the discovery of links between the worlds of music, physics and maths, not only for the students attending, but also for the undergraduate student tutors involved. It also gives this undergraduate cohort excellent teaching experience, hopefully inspiring some of them to consider this career path following their primary degree. Quavers to Quadratics allows them to practice teaching in a genuinely interdisciplinary fashion – an essential skill for any prospective teacher.</p>	€44,570

Starship Earth	National University of Ireland, Galway (NUIG)	<p>The goal of Starship Earth is to inspire, engage and educate teachers, students and the public about STEM through launching four high-altitude balloons from Ireland to the ‘Edge of Space’ and back on 4 May 2020 (May the Fourth Be With You - Star Wars Day). Space is an amazing way to enthuse people about STEM. Furthermore given the current justifiable concern for Climate Change, the ability of high-altitude balloons to carry student projects & cameras to the “Edge of Space” into the stratosphere (~30,000m), allows reflection on the uniqueness of our blue planet - Spaceship Earth.</p> <p>The project team (NUIG/UL/Met Eireann) will work closely with the participating primary/post-primary schools to prepare students and teachers for their first high-altitude balloon mission. These high-altitude balloons have a worldwide established track record of safe and effective use in weather forecasting, astronomy and STEM outreach.</p> <p>The format of Spaceship Earth is to engage students in real-world project-based experiments in the classroom that are used to develop collaborative problem-solving skills and a framework for asking and answering scientific questions. Students will develop experiments that they can launch to the stratosphere. Once the experiments return to Earth, students will engage in analysis and discussion about their experiments that will extend and deepen students’ learning. They will also host a school event where they will report their findings back to the wider school and local community.</p>	€39,200
Little Big Questions.	University College Dublin (UCD)	<p>Little Big Questions (LBQ) takes primary school children from low socio-economic areas and transports them to University College Dublin (UCD) to explore exciting science through play and inquiry based learning in a specifically designed outreach laboratory.</p> <p>The unique selling point of LBQ is that the children come up with the questions that they want to learn about. They decide, We provide. Although these questions may be straightforward, the answers can be complex. Parents and teachers sometimes struggle to answer these questions for children, often due to a lack of scientific knowledge and understanding. At LBQ, children get to ask such questions and not only learn the answers but most importantly learn the steps to come up with solutions themselves. This process engages children in a truly impactful way because it values and listens to the interests of all the children involved.</p>	€49,970
Activating the Energy Citizen on the Dingle Peninsula	Mol Teic T/A Dingle Hub/ Dingle Creativity and Innovation Hub	<p>Activating the Energy Citizen on the Dingle Peninsula is a year-long project designed to increase awareness, to educate, and to support local community involvement in the area’s transition to a low carbon society.</p> <p>The project will be delivered by the Dingle 2030 working group, comprising representatives of the Dingle Hub, MaREI, ESB Networks, and North, East & West Kerry Development (NEWKD), which aims to support the Dingle Peninsula’s transition to a sustainable future.</p> <p>This project will co-ordinate the following:</p> <ul style="list-style-type: none"> - 6 information and awareness events to coincide with local festivals, and 4 community workshops on retrofitting and energy efficiency. - A drop-in Energy Bureau in the Dingle Hub, with local Energy Coaches providing independent retrofit and energy advice and home visits. - The production of an animated clip on the low carbon transition by young people of the area. - An on-going media and marketing presence across the Peninsula. 	€49,920

<p>*OurKidsCode: Delivering family creative computing workshops nationally</p>	<p>Trinity College Dublin</p>	<p>Over the past 2 years, OurKidsCode has designed, developed, and evaluated two family creative-coding workshop models with the aim of supporting parents who wish to engage their primary-school children's interest and activity in computing. They consist of a single-session workshop to harness interest and bolster confidence and a 4-part model, run over consecutive weeks, designed to foster self-reliance and build self-sustaining communities of practice by increasing competence, and skills in accessing knowledge and using materials. A key feature of both is that families learn together and activities are inclusive.</p> <p>To date we have trained a total of 48 facilitators in the delivery of the single-session workshop: 21 NPC facilitators, 17 others consisting of community workers, CoderDojo mentors, teachers and other educators and 10 student teachers at Queens University Belfast. Training in the 4-part model is planned for 2019.</p> <p>This project will roll the programme out nationally.</p>	<p>€299,927</p>
<p>EIRSAT-1 Hub - Space for Engagement</p>	<p>University College Dublin (UCD)</p>	<p>A once in a lifetime project is happening. Ireland is building its first satellite. Designed and built in University College Dublin, Ireland is about to become a spacefaring country.</p> <p>Our satellite is called EIRSAT-1, which stands for Educational Irish Research Satellite 1. Education is a core value of the mission, which is happening with the support of European Space Agency Education Office as part of their 'Fly Your Satellite!' programme</p> <p>We plan to capture the imagination of the young and the old by creating an easy to use online hub showing the real time data from EIRSAT-1 as it arrives at our Irish ground station from orbit. This will let the public view, interact and save the data in an easy way, with instant access to the overall health of the satellite and how the three scientific payloads are performing. We will also create comic book style worksheets to allow school students learn about space by finding answers from the data hub.</p>	<p>€40,470</p>
<p>Peigi's Adventures in Science</p>	<p>University College Dublin (UCD)</p>	<p>The project will write, produce and distribute four children's storybooks with blended Social Justice/Science and Mathematics themes. It will deliberately target a, sometimes, neglected cohort within Irish STEM education - the Junior Infant pupil (4-5 year olds). This project will co-produce and distribute high quality, user-friendly school- and home-based resources in the form of four, colourful soft-covered storybooks with child-friendly text and age-appropriate illustrations. The recurring central character of these books, Peigi the Cocker Spaniel, will embark upon a series of adventures which will allow the narrator/teacher/parent to engage with issues of inclusion and social justice in tandem with Science/Mathematics topics. This home/school engagement will take place within an age-appropriate and language-appropriate framework. The books will be produced to a high standard with quality illustrations and excellent production values, and will be distributed to all Junior Infant classrooms in Ireland.</p>	<p>€49,844</p>

The Lonsdale Project	Riverbank Arts Centre CLG	<p>The Lonsdale Project is a new theatre show for ages 11+ about the life and work of Kathleen Lonsdale (1903 – 1971), a Kildare-born chemist and crystallographer. She was an anti-war campaigner, a Quaker, a mother of three, and an activist for penal reform in the UK, having served time in Holloway Prison. Despite being lauded in her field, she is curiously unknown by the general public.</p> <p>Riverbank Arts Centre and Super Paua want to change that. We're gathering an interdisciplinary team and challenging ourselves to make a fun, engaging piece of performance that portrays the hugeness of microscopic worlds theatrically. We will move the science of Crystallography from the realm of seemingly incomprehensible theory to the fascinating, funny, and visually-wonderful realm of live performance, and to inspire the next generation of scientists and activists through Lonsdale's incredible personal story.</p> <p>We will be working in collaboration with scientists from Technological University Dublin, The Royal Institution, University College London and Diamond Light Source. We plan to research and develop this show further in 2019, to premiere it at our venue in Newbridge (Lonsdale's birthplace), and to tour it to regional SciFest fairs between March-May 2020, accompanied by interactive workshops and pre- and post- show learning resources.</p>	€50,000
*Festival of Curiosity 2020 & 2021 - Inspiring Collaboration/Connecting Dublin	The Festival of Curiosity Ltd	<p>The Festival of Curiosity is one of Europe's most exciting and innovative international festivals of science, arts, design and technology.</p> <p>Over the next two years, we aim to directly engage over 140,000 people and undertake two strategic objectives</p> <ol style="list-style-type: none"> 1. Inspiring Collaboration - increase the overall audience of the festival through the co-development of programming with cultural institutions across Dublin. 2. Connecting Dublin - expand our reach into disconnected audiences and continue the development of best practice in engaging non-traditional audiences. 	€300,000
*VEX Robotics	Cork Institute of Technology (CIT)	<p>VEX Robotics is an all-encompassing international competition that promotes STEM. It has over a million participants worldwide since its inception, it operates to a global standard and is organised by the non-profit Robotics Education and Competition Foundation. It is a competition that fosters both hard and soft skills in participating students. The students design, build, and programme their own robot in a teamwork-based competition. In addition to the cognitive skills, it also nurtures soft skills through teamwork, critical thinking, project management and public speaking. There is a role for every child in this competition.</p>	€297,327
Pair Teaching in Coding for Primary School Teachers	Limerick Institute of Technology (LIT)	<p>The project aims to provide primary teachers, of 5th and 6th class students in the Midwest Region, with an opportunity to engage in an effective way with Computer Science (CS) in their own classrooms. The programme team will co-teach with teachers for a period of four weeks building confidence and providing support to ensure the successful teaching of CS topics and its continued integration as part of the primary curriculum.</p>	€32,400

*YES! (Youth Engineering Solutions)	Foróige	<p>Foróige, supported by leading academic, industry and STEM education collaborators, will scale up a 2 year pilot youth engineering programme, in which some 65% of the participants were girls.</p> <p>Using Foróige’s learning by doing approach, young people will:</p> <ol style="list-style-type: none"> 1. Develop a STEM “mind-set” 2. Increase their computational thinking, curiosity, inquiry and persistence 3. Identify, test, prototype and implement collaborative and customised engineering solutions in Foróige "STEM Hubs"; including outer space related work. 4. Showcase their projects publically and get feedback from experts and community. 5. Interact with engineers and STEM entrepreneurs 6. Increase orientation to STEM/ Engineering careers. <p>Parents will be better able to support their children’s interest in STEM.</p>	€217,117
Career Mathways	University of Limerick (UL)	<p>Piloted in 2018/19, Career Mathways highlighted how mathematics is used in a variety of diverse careers. Phase 2 of CM involves the development of an online platform where all resources will be disseminated and a much stronger emphasis on teacher professional development (PD). We will continue to collaborate with well-known, high-profile Irish celebrities/professionals by inviting them to become STEM Ambassadors, to make mathematics more visible/fascinating to students.</p>	€34,181
*Weave - interwoven culturally responsive computational thinking	Dublin City University (DCU)	<p>This project will apply a co-development approach that will build primary teachers’ capacities to effectively and sustainably deliver STEM Education and Public Engagement (EPE) in Ireland. As a 2-year public engagement initiative, Dublin City University (DCU) and IT Carlow will partner with Professional Development Service for Teachers (PDST) and a US-based NSF-funded professor (K. Scott) to co-develop a cross-curricular culturally responsive computational thinking framework for primary school girls; iteratively implement this framework in all-girl primary schools; and co-develop professional development experiences for pre and in-service teachers to scale curriculum in mixed-gender primary classrooms throughout Ireland. The outputs of this project will include a framework to be implemented in Irish primary schools; mentoring resources for primary school teachers; and a suite of CPD resources that PDST can use for their national programme.</p>	€299,926